



# FIRE II Cirrus

## Mission Summary



Date: November 15, 1991

Julian Day: 319

Experiment Day: 3

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Mission Scientist: Patrick Minnis

Deputy Mission Scientist: David Starr

Mission Objectives:

No specific cirrus objective as weather conditions were not favorable.

Mission Description:

Mission held on standby hoping for break in the weather (rain and low clouds). It didn't happen. No mission flown and most ground systems also stood down.

Weather Synopsis:

Low clouds and sporadic rain all day. Weak surface cold front crossed the Coffeyville area during the early to mid-morning hours. Temperatures dropped from the low 60's to the low 50's. Light northerly winds accompanied the frontal passage. Showers also occurred over Missouri, Texas, and Arkansas. Very little, if any, high level cloudiness over the area. Middle levels are also dry in most soundings. Winds aloft are from the southwest and moderate.

Synoptic Situation:

Major winter storm is developing to the west with large amounts of snow in Colorado and Wyoming as a closed low (500 mb) digs into southern Nevada and northwestern Arizona. The split upper level flow regime of the past few days is amplifying with a large ridge extending from the northern Great Plains into central Canada.

Aircraft	Depart	Land	Notes
All Aircraft			No flights

Satellite	Hub Overpass Time	Zenith Angle	Azimuth Angle	RAOB
NOAA-11	21:37:53	57.74	262.73	yes
	10:02:17	26.18	286.36	yes
NOAA-12	13:49:30	45.75	99.49	yes
	01:09:30	30.05	72.40	yes

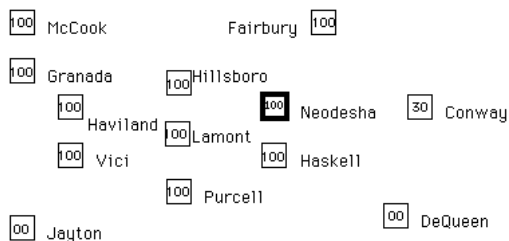
Rawinsonde Operations: (mode/status)

- Inner NWS stations (Type A): Routine @ 12 and 00 UTC
- Outer NWS stations (Type B): Routine @ 12 and 00 UTC
- Hub CLASS station: Satellite overpasses @ 14, 22, 14, 02 UTC
  - (problems with winds, successful test of ice replicator)
- Remote CLASS stations: Test flights at Muskogee at 18 UTC
- Hub GSFC/WFF station: None
- CSU Parsons station: None

FIRE Profiler Status:

- CSU 405 MHz @ Parsons Continuous operation (no RASS)
- PSU 50 MHz @ Coffeyville Mostly down due to technical problems
  - (some low level winds)
- NOAA 405 MHz @ Coffeyville Not operating, erratic data
  - (RASS only capability)

NWS Wind Profiler Status:



SPECTRE Operations:

Sporadic rain and poor weather. SPECTRE shut down for the day.

### Significant Hardware Problems:

- Hub CLASS RAOB winds have problems.
- U. Utah and U. Wisc HSR lidars not operational
  - (but wouldn't have been used anyway due to rain)
- PSU 50 MHz profiler/RASS not operational.
- NOAA 405 MHz profiler not operational.
- Sabeliner radiometric instruments not ready.

### Highlights of FIRE Operations:

- Good radar studies by NOAA 8.6 mm Doppler radar.
- U. Wisc. Volume Imaging Lidar is now operational (no data taken due to poor weather).

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## Instrument Logs

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Passive Sensor		UTC Hour																								Notes
		12	13	14	15	16	17	18	19	20	21	22	23	00	01	02	03	04	05	06	07	08	09	10	11	
NOAA $\mu$ -wave Radiometer H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Sun Photometer H																										NO OBSERVATIONS
NOAA H20 Photometer H																										NO OBSERVATIONS
NOAA IR Flux Radiom. H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Dobson Ozone H																										NO OBSERVATIONS
NOAA Surface Ozone H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
NOAA Trace Gas H																										NO OBSERVATIONS
PSU $\mu$ -wave Radiometer H													X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU Sun Photometer H																										NO OBSERVATIONS
PSU Solar Flux Radiom. H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU IR Flux Radiometers H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
PSU Sky Video H																										NO OBSERVATIONS
Utah IR-Window Radiom. H																										NOT OPERATIONAL
Utah Sky Video H																										NOT OPERATIONAL
LaRC Video H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
AFGL Sky Imager H	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Ames Radiometer H																										NOT OPERATIONAL
Denver Solar Radiom. H																										NO OBSERVATIONS
Denver IR-Spectrometers H																										NO OBSERVATIONS
GSFC IR-Spectrometer H																										NO OBSERVATIONS
Wisc. IR-Spectrometer H																										NO OBSERVATIONS
MRI Sun Photometer H																										NOT OPERATIONAL, TESTING
MRI IR Radiometer H																										NOT OPERATIONAL, TESTING
MRI Spectro-Radiom. H																										NOT OPERATIONAL, TESTING

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